



**Patent**  
Docket Number: ACE-00101.P.1.1-US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: )  
Xu et al. )  
Application No.: 10/705,447 ) Examiner: To Be Determined  
Filed: November 11, 2003 ) Art Unit: 1632  
For: IMPEDANCE BASED DEVICES )  
AND METHODS FOR USE IN )  
ASSAYS )

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Commissioner for Patents  
Alexandria, VA 22313

**INFORMATION DISCLOSURE STATEMENT**

Sir:

This Information Disclosure Statement is being filed before the mailing of a First Office Action on the merits under 37 C.F.R. § 1.97(a)(3). Accordingly, no fee under 37 C.F.R. § 1.17(p) is deemed necessary.

Applicants respectfully submit herewith a listing of references on the attached Form 1449 and three (3) volumes of cited references.

**Please apply any charges not covered, or any credits, to Deposit Account number  
501321 in the name of David R. Preston & Associates, having Customer Number 24232.**

Respectfully submitted,

Date: March 1, 2005



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**TRANSMITTAL  
FORM**

(to be used for all correspondence after initial filing)

		Application Number	10/705,447
		Filing Date	11/10/2003
		First Named Inventor	Xiao Xu
		Art Unit	1632
		Examiner Name	to be determined
Total Number of Pages in This Submission	9	Attorney Docket Number	ACE-00101.P.1.1-US

**ENCLOSURES (Check all that apply)**

<input checked="" type="checkbox"/> Fee Transmittal Form	<input type="checkbox"/> Drawing(s)	<input type="checkbox"/> After Allowance Communication to TC
<input type="checkbox"/> Fee Attached	<input type="checkbox"/> Licensing-related Papers	<input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences
<input type="checkbox"/> Amendment/Reply	<input type="checkbox"/> Petition	<input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief)
<input type="checkbox"/> After Final	<input type="checkbox"/> Petition to Convert to a Provisional Application	<input type="checkbox"/> Proprietary Information
<input type="checkbox"/> Affidavits/declaration(s)	<input type="checkbox"/> Power of Attorney, Revocation	<input type="checkbox"/> Status Letter
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<input checked="" type="checkbox"/> Information Disclosure Statement	<input type="checkbox"/> Request for Refund	
<input type="checkbox"/> Certified Copy of Priority Document(s)	<input type="checkbox"/> CD, Number of CD(s) _____	
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<input type="checkbox"/> Reply to Missing Parts under 37 CFR 1.52 or 1.53		
<b>Remarks</b>		
1. Listing of References on Form 1449; 2. 3 Volumes of cited references; and 3. Postcard		

**SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT**

Firm Name	David R Preston & Associates		
Signature			
Printed name	David R Preston		
Date	March 1, 2005	Reg. No.	38,710

**CERTIFICATE OF TRANSMISSION/MAILING**

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:

Signature			
Typed or printed name	Raymond Wagenknecht	Date	3/1/2005

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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Effective on 12/03/2004.

Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).

# FEE TRANSMITTAL For FY 2005

Applicant claims small entity status. See 37 CFR 1.27

**TOTAL AMOUNT OF PAYMENT (\$)** **0.00**

## Complete if Known

Application Number	10/705,447
Filing Date	11/10/2003
First Named Inventor	Xiao Xu
Examiner Name	to be determined
Art Unit	1632
Attorney Docket No.	ACE-00101.P.1.1-US

## METHOD OF PAYMENT (check all that apply)

Check  Credit Card  Money Order  None  Other (please identify): \_\_\_\_\_

Deposit Account Deposit Account Number: 501321 Deposit Account Name: David R Preston

For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)

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Charge any additional fee(s) or underpayments of fee(s)  Credit any overpayments  
under 37 CFR 1.16 and 1.17

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## FEE CALCULATION

### 1. BASIC FILING, SEARCH, AND EXAMINATION FEES

<u>Application Type</u>	<u>FILING FEES</u>		<u>SEARCH FEES</u>		<u>EXAMINATION FEES</u>		<u>Fees Paid (\$)</u>
	<u>Small Entity</u>	<u>Fee (\$)</u>	<u>Small Entity</u>	<u>Fee (\$)</u>	<u>Small Entity</u>	<u>Fee (\$)</u>	
Utility	300	150	500	250	200	100	_____
Design	200	100	100	50	130	65	_____
Plant	200	100	300	150	160	80	_____
Reissue	300	150	500	250	600	300	_____
Provisional	200	100	0	0	0	0	_____

### 2. EXCESS CLAIM FEES

#### Fee Description

- Each claim over 20 (including Reissues)
- Each independent claim over 3 (including Reissues)
- Multiple dependent claims

<u>Total Claims</u>	<u>Extra Claims</u>	<u>Fee (\$)</u>	<u>Fee Paid (\$)</u>	<u>Multiple Dependent Claims</u>	<u>Fee (\$)</u>	<u>Fee Paid (\$)</u>
- 20 or HP =	x	=			50	25

HP = highest number of total claims paid for, if greater than 20.

<u>Indep. Claims</u>	<u>Extra Claims</u>	<u>Fee (\$)</u>	<u>Fee Paid (\$)</u>	<u>Fee (\$)</u>	<u>Fee Paid (\$)</u>
- 3 or HP =	x	=			

HP = highest number of independent claims paid for, if greater than 3.

### 3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

<u>Total Sheets</u>	<u>Extra Sheets</u>	<u>Number of each additional 50 or fraction thereof</u>	<u>Fee (\$)</u>	<u>Fee Paid (\$)</u>
- 100 =	/ 50 =	(round up to a whole number) x		=

### 4. OTHER FEE(S)

Non-English Specification, \$130 fee (no small entity discount)

Other (e.g., late filing surcharge): \_\_\_\_\_

## SUBMITTED BY

Signature		Registration No. (Attorney/Agent) 38,710	Telephone 858-724-0375
Name (Print/Type)	David R Preston	Date <u>March 1, 2005</u>	

This collection of information is required by 37 CFR 1.136. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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**INFORMATION DISCLOSURE  
STATEMENT  
BY APPLICANT**

(Use several sheets if necessary)

Docket Number: ACE-00101.P.1.1-US	Application Number: 10/705,447
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Applicant: Xiao Xu
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Filing Date: November 10, 2003	Group Art Unit: 1632
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**U.S. PATENT DOCUMENTS**

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE IF APPROPRIATE
	P1	2002/0032531	03/2002	Mansky et al			
	P2	2002/0076690	06/2002	Miles et al			
	P3	2002/0086280	07/2002	Lynes et al			
	P4	2002/0110847	08/2002	Baumann et al			
	P5	2002/0150886	10/2002	Miles et al			
	P6	2,656,508	10/1953	Coulter			
	P7	3,259,842	07/1966	Coulter et al			
	P8	3,743,581	07/1973	Cady et al			
	P9	3,890,201	06/1975	Cady			
	P10	4,072,578	02/1978	Cady et al			
	P11	4,225,410	09/1980	Pace			
	P12	4,686,190	08/1987	Cramer et al			
	P13	4,920,047	04/1990	Giaevers et al			
	P14	5,134,070	07/1992	Casnig			
	P15	5,187,096	02/1993	Giaevers et al			
	P16	5,218,312	06/1993	Moro			
	P17	5,278,048	01/1994	Parce et al			
	P18	5,284,753	02/1994	Goodwin			

Examiner Signature		Date Considered	
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EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE IF APPROPRIATE
	P19	5,563,067	10/1996	Sugihara et al			
	P20	5,626,734	05/1997	Docoslis et al			
	P21	5,643,742	07/1997	Malin et al			
	P22	5,801,055	09/1998	Henderson			
	P23	5,810,725	10/1998	Sugihara et al			
	P24	5,851,489	12/1998	Wolf et al			
	P25	5,981,268	11/1999	Kovacs et al			
	P26	6,051,422	04/2000	Kovacs et al			
	P27	6,132,683	10/2000	Sugihara et al			
	P28	6,169,394	01/2001	Frazier et al			
	P29	6,232,062	05/2001	Kayyem et al			
	P30	6,235,520	05/2001	Malin et al			
	P31	6,280,586	08/2001	Wolf et al			
	P32	6,288,527	09/2001	Sugihara et al			
	P33	6,368,851	04/2002	Baumann et al			
	P34	6,376,233	04/2002	Wolf et al			
	P35	6,448,030	09/2002	Rust et al			
	P36	6,448,794	09/2002	Cheng et al			
	P37	6,472,144	10/2002	Malin et al			
	P38						

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FOREIGN PATENT DOCUMENTS							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	Translation
							YES      NO
	F1	96/01836	01/1996	PCT			
	F2	99/66329	12/1999	PCT			
	F3	00/71669	11/2000	PCT			
	F4	01/038873	05/2001	PCT			
	F5	02/42766	05/2002	PCT			
	F6						

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	D6	Burns et al, Neutrophil Transendothelial Migration Is Independent of Tight Junctions and Occurs Preferentially at Tricellular Corners. Journal of Immunology 2893-2903 (1997)

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	D8	Connolly et al., An extracellular microelectrode array for monitoring electrogenic cells in culture Biosensors & Bioelectronics 5: 223-234 (1990)
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	D18	Huang et al., Dielectrophoretic Cell Separation and Gene Expression Profiling on Microelectronic Chip Arrays. <i>Anal. Chem.</i> 74:3362-3371 (2002)

Examiner Signature		Date Considered	
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	D19	Keese et al, Real-time impedance assay to follow the invasive activities of metastatic cells in culture. Biotechniques 33:842-850 (2002)
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Examiner Signature		Date Considered	
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	D41	Tiruppathi et al, Electrical method for detection of endothelial cell shape change in time: assessment of endothelial barrier function. Proc Natl Acad Sci USA 89:7919-7923 (1992)
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	D44	Wang et al, Cell Separation by Dielectrophoretic Field-flow-fractionation. Anal. Chem. 72:832-839 (2000)

Examiner Signature		Date Considered
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**OTHER DOCUMENTS**  
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	D45	Wang et al, Dielectrophoretic Manipulation of Cells with Spiral Electrodes. Biophysical Journal 72:1887-1899 (1997)
	D46	Wang et al, Separation of Polystyrene Microbeads Using Dielectrophoretic/Graviational Field-Flow-Fractionation. Biophysical Journal 74:2689-2701 (1998)
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	D51	Xiao et al, An in-depth Analysis of Electric Cell-Substrate Impedance Sensing To Study the Attachment and Spreading of Mammalian Cells, Anal. Chem 74:1333-1339 (2002)
	D52	Yang et al, Cell Separation on Microfabricated Electrodes Using Dielectrophoretic/Gravitational Field-Flow Fractionation. Anal. Chem. 71:911-918 (1999)
	D53	<a href="http://www.neuroprobe.com/protocol/pt_96a.html">http://www.neuroprobe.com/protocol/pt_96a.html</a>
	D54	<a href="http://www.bdbiosciences.com/discovery_labware/Products/insets/BD_FalconHTS_fluoroblok_inserts/individual_fluoroblok_inserts/index.html">http://www.bdbiosciences.com/discovery_labware/Products/insets/BD_FalconHTS_fluoroblok_inserts/individual_fluoroblok_inserts/index.html</a>
	D55	<a href="http://www.tecan.com/migration_intro1.pdf">http://www.tecan.com/migration_intro1.pdf</a>
	D56	New Products page. Science 298:2409 (2002)
	D57	Abstract: Real-Time Impedance Assay to Follow the Invasive Activities of Metastatic Cells in Culture. Biotechniques 33: 842 (2002)
	D58	<a href="http://www.biophysics.com/pages/front.html">http://www.biophysics.com/pages/front.html</a>

Examiner Signature		Date Considered	
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